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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,435	05/02/2006	Jeffrey D. Rothstein	JHU2090-1	2771
28213	7590	02/09/2009	EXAMINER	
DLA PIPER LLP (US) 4365 EXECUTIVE DRIVE SUITE 1100 SAN DIEGO, CA 92121-2133			MACFARLANE, STACEY NEE	
			ART UNIT	PAPER NUMBER
			1649	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/542,435

Applicant(s)

ROTHSTEIN ET AL.

Examiner

STACEY MACFARLANE

Art Unit

1649

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 18-44 is/are pending in the application.
- 4a) Of the above claim(s) 1, 5, 6, 8, 11, 12, 18 and 20-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-4, 7, 9, 10, 13 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 12, 2008 has been entered.

Response to Amendment

2. Claim 2 has been amended, claims 14-17 have been cancelled, as requested in the amendment filed on November 12, 2008. Following the amendment, claims 1-13 and 18-44 are pending in the instant application.

Claims 1, 5, 6, 8, 11, 12, 18 and 20-44 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim.

Claims 2-4, 7, 9, 10, 13 and 19 are under examination in the instant office action.

3. Any objection or rejection of record, which is not expressly repeated in this action has been overcome by Applicant's response and withdrawn.

4. Applicant's arguments filed on November 12, 2008 have been fully considered but they are not deemed to be persuasive for the reasons set forth below.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. As currently amended, Claims 2, 4, 7, 9-10, 13 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Lin et al. (2001) cited in the previous Office action mailed June 13, 2007.

Claims are drawn to methods for identifying a compound which modulates cellular glycosylation comprising (a) contacting a cell which expresses GTRAP3-18 with a test compound and (2) identifying the test compound as a modulator of cellular glycosylation by assaying the ability of the test compound to modulate the expression of GTRAP3-18 nucleic acid molecule or polypeptide or the activity of a GTRAP3-18 polypeptide, thereby identifying a compound which modulates cellular glycosylation. Dependent claims further recite wherein the modulation of GTRAP3-18 transcript, protein or activity is determined by detecting levels of glutamate transport by a GTRAP3-18 target molecule (Claim 4); or detecting the level of amino acid transport by a GTRAP3-18 target molecule (Claim 7); wherein that GTRAP3-18 target molecule is

the a glutamate or amino acid transporter (Claims 9, 13), and specifically wherein the glutamate transporter is selected from the group consisting of GLAST/EAAT1, GLT-1/EAAT2, EAAC1/EAAT3, EAAT4 and EAAT5 (Claim 10); and wherein the cell is a neuronal cell (Claim 19).

On pages 9-11 of Remarks, Applicant traverses the rejection on the grounds that the claims have been amended to recite "b) identifying the test compound as a modulator of cellular glycosylation by assaying the ability of the test compound to modulate the expression of a GTRAP3-18 nucleic acid molecule or polypeptide, or the activity of a GTRAP3-18 polypeptide, thereby identifying a compound which modulates cellular glycosylation" and the Lin et al. fail to teach identifying a test compound a modulator of cellular glycosylation as recited in b). Applicant further traverses that Lin is silent with respect to the correlation between GTRAP3-18 and cellular glycosylation and therefore does not provide an enabling disclosure for the subject matter as claimed. While these arguments have been fully considered they are not found persuasive for the following reasons.

The Lin prior art teaches contacting cells expressing GTRAP3-18 (neuronal cells and transfected cell lines) with test compounds (antisense oligomers and retinoic acid) and assaying the effects of the test compound on both GTRAP3-18 protein expression (Figure 4a) and GTRAP3-18 activity via its association with the co-expressed excitatory amino acid (a.k.a. glutamate) transporter, EAAC1 (Figures 3 and 4). Specifically, the Lin reference teaches cells contacted with retinoic acid increase GTRAP3-18 protein expression (Figure 4a) and decrease GTRAP3-18 activity as determined by transport of

the amino acid glutamate via coexpressed EAAC1. The Lin et al. reference demonstrates a specific interaction with EAAC1 both in vitro and in vivo, thus identifying the EAAC1 transporter as a "GTRAP3-18 target molecule", as required by Claims 4, 7 and 9-10. Further, the reference teaches the method wherein the cells contacted are neuronal cells (Figures 3e and 4e).

There is sufficient description within the Lin et al. disclosure such that one of ordinary skill in the art would be able to perform the active steps required by the claims without undue experimentation. Since the Lin et al. reference teaches methods comprising the active steps required by the claims: contacting cells expressing GTRAP3-18 with a test compound and assaying the ability of the test compound to modulate the expression of a GTRAP3-18 nucleic acid or polypeptide, or the activity of a GTRAP3-18 polypeptide, it therefore inherently teaches identification of a compound which modulates cellular glycosylation. The characteristic that a compound that modulates the expression of a GTRAP3-18 nucleic acid or polypeptide, or the activity of a GTRAP3-18 polypeptide, is also a compound which modulates cellular glycosylation need not have been known within the state of the art at the time of filing.

MPEP § 2112 provides guidance as to the Examiner's burden of proof for a rejection of claims under 35 U.S.C. 102 or 103 based upon the express, implicit, and inherent disclosures of a prior art reference. The case law clearly states that something which is old does not become patentable upon the discovery of a new property.

"[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old

composition patentably new to the discoverer." *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999).

Thus, the claiming of a new function or unknown property that is inherently present in the prior art does not necessarily make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). Further, *In re Crish*, 393 F.3d 1253, 1258, 73 USPQ2d 1364, 1368 (Fed. Cir. 2004), the court stated that "just as the discovery of properties of a known material does not make it novel, the identification and characterization of a prior art material also does not make it novel." In addition the court has held that there is no requirement that a person of ordinary skill in the art would have recognized the inherent disclosure at the time of invention, but only that the subject matter is in fact inherent in the prior art reference. *Schering Corp. v. Geneva Pharm. Inc.*, 339 F.3d 1373, 1377, 67 USPQ2d 1664, 1668 (Fed. Cir. 2003); see also *Toro Co. v. Deere & Co.*, 355 F.3d 1313, 1320, 69 USPQ2d 1584, 1590 (Fed. Cir. 2004) ("[T]he fact that a characteristic is a necessary feature or result of a prior-art embodiment (that is itself sufficiently described and enabled) is enough for inherent anticipation, even if that fact was unknown at the time of the prior invention."); *Abbott Labs v. Geneva Pharms., Inc.*, 182 F.3d 1315, 1319, 51 USPQ2d 1307, 1310 (Fed.Cir.1999).

The case law specifically applies to the instant application where Applicant has claimed a method for identifying a test compound in terms of a function, property or characteristic ("modulates cellular glycosylation") and the method and test compound of the prior art is the same as that of the claim but the characteristic is not explicitly disclosed by the reference. In the instant case, Applicant's invention is directed to a

method for identifying a compound comprising contacting a cell which expresses GTRAP3-18 with a test compound and assaying the ability of the test compound to modulated the expression of a GTRAP3-18 nucleic acid or polypeptide, or the activity of GTRAP3-18, thereby identifying a compound which modulates cellular glycosylation. The examiner has applied prior art which disclosed contacting cells expressing GTRAP3-18 with a test compound and subsequently assaying for GTRAP3-18 protein expression and activity. The examiner's assertion of inherency is based upon the material and methodological similarity between the prior art and the claimed method, wherein the method of the prior art "thereby identifies a compound which modulates cellular glycosylation".

Where the claimed and prior art processes are identical or substantially identical a *prima facie* case of either anticipation or obviousness has been established and the burden of proof rests upon the Applicant to demonstrate that the prior art does not necessarily or inherently possess the characteristics of Applicant's claimed product. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977)). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

The claimed method fails to materially or methodologically distinguish over that of the prior art. Applicant needs to contemplate recitation within the claim that would distinguish over the art, for example, recitation of an active step by which GTRAP3-18

expression and/or activity is correlated to glycosylation, such as assaying the ability of the test compound to modulate the electro-mobility of rEATs (See Specification Figures 5 and 6). As currently amended, the method of the instant claims fails to distinguish over that of the prior art, therefore, the Lin et al. prior art fully anticipates the method of claims 2, 4, 7, 9-10, 13 and 19.

7. Claims 2, 4, 7, 9, 13 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6808893 ('893 Patent).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claims are drawn to methods for identifying a compound which modulates cellular glycosylation comprising (a) contacting a cell which expresses GTRAP3-18 with a test compound and (2) identifying the test compound as a modulator of cellular glycosylation by assaying the ability of the test compound to modulate the expression of GTRAP3-18 nucleic acid molecule or polypeptide or the activity of a GTRAP3-18 polypeptide, thereby identifying a compound which modulates cellular glycosylation. Dependent claims further recite wherein the modulation of GTRAP3-18 transcript, protein or activity is determined by detecting levels of glutamate transport by a

GTRAP3-18 target molecule (Claim 4); or detecting the level of amino acid transport by a GTRAP3-18 target molecule (Claim 7); wherein that GTRAP3-18 target molecule is the a glutamate or amino acid transporter (Claims 9, 13), and specifically wherein the glutamate transporter is selected from the group consisting of GLAST/EAAT1, GLT-1/EAAT2, EAAC1/EAAT3, EAAT4 and EAAT5 (Claim 10); and wherein the cell is a neuronal cell (Claim 19).

On pages 11-12 of Remarks, Applicant traverses the rejection on the grounds that the claims have been amended to recite "b) identifying the test compound as a modulator of cellular glycosylation by assaying the ability of the test compound to modulate the expression of a GTRAP3-18 nucleic acid molecule or polypeptide, or the activity of a GTRAP3-18 polypeptide, thereby identifying a compound which modulates cellular glycosylation" and the Rothstein et al. prior art fails to teach identifying a test compound a modulator of cellular glycosylation as recited in the newly amended Claim 2 step b). Applicant further traverses that Rothstein et al. is silent with respect to the correlation between GTRAP3-18 and cellular glycosylation and therefore does not provide an enabling disclosure for the subject matter as claimed. While these arguments have been fully considered they are not found persuasive for the following reasons.

The '893 Rothstein Patent teaches methods comprising contacting cells with test compounds (antisense oligomers and retinoic acid) and assay the ability of these test compounds to reduce GTRAP3-18 protein expression (Figure 8A-C) and activity as determined by glutamate transport via the co-expressed excitatory amino acid

transporter, EAAC1. Specifically, the '893 Patent teaches, "Retinoic acid induces a large increase in GTAP3-18 expression ... A significant decrease in glutamate transport activity paralleled the increase of GTRAP3-18 protein level" (¶ 219). Therefore, the prior art patent teaches a method comprising contacting cells with a test compound and assaying the level of GTRAP3-18 protein expression and activity via a amino acid or glutamate transporter "GTRAP3-18 target molecule", as required by of Claims 4, 7, 9-10 and 13. Furthermore, the Rothstein Patent discloses the method comprising neuronal cells expressing GTRAP3-18 (¶ 13), thus, teaching the method of Claim 19. The instant claim fails to distinguish over that of the prior art.

MPEP § 2112 provides guidance as to the Examiner's burden of proof for a rejection of claims under 35 U.S.C. 102 or 103 based upon the express, implicit, and inherent disclosures of a prior art reference. The case law clearly states that something which is old does not become patentable upon the discovery of a new property.

"[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999).

Thus, the claiming of a new function or unknown property that is inherently present in the prior art does not necessarily make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). Further, *In re Crish*, 393 F.3d 1253, 1258, 73 USPQ2d 1364, 1368 (Fed. Cir. 2004), the court stated that "just as the discovery of properties of a known material does not make it novel, the identification and

characterization of a prior art material also does not make it novel." In addition the court has held that there is no requirement that a person of ordinary skill in the art would have recognized the inherent disclosure at the time of invention, but only that the subject matter is in fact inherent in the prior art reference. *Schering Corp. v. Geneva Pharm. Inc.*, 339 F.3d 1373, 1377, 67 USPQ2d 1664, 1668 (Fed. Cir. 2003); see also *Toro Co. v. Deere & Co.*, 355 F.3d 1313, 1320, 69 USPQ2d 1584, 1590 (Fed. Cir. 2004) ("[T]he fact that a characteristic is a necessary feature or result of a prior-art embodiment (that is itself sufficiently described and enabled) is enough for inherent anticipation, even if that fact was unknown at the time of the prior invention."); *Abbott Labs v. Geneva Pharms., Inc.*, 182 F.3d 1315, 1319, 51 USPQ2d 1307, 1310 (Fed.Cir.1999).

The case law specifically applies to the instant application where Applicant has claimed a method for identifying a test compound in terms of a function, property or characteristic ("modulates cellular glycosylation") and the method and test compound of the prior art is the same as that of the claim but the characteristic is not explicitly disclosed by the reference. In the instant case, Applicant's invention is directed to a method for identifying a compound comprising contacting a cell which expresses GTRAP3-18 with a test compound and assaying the ability of the test compound to modulated the expression of a GTRAP3-18 nucleic acid or polypeptide, or the activity of GTRAP3-18, thereby identifying a compound which modulates cellular glycosylation. The examiner has applied prior art which disclosed contacting cells expressing GTRAP3-18 with a test compound and subsequently assaying for GTRAP3-18 protein

expression and activity. The examiner's assertion of inherency is based upon the material and methodological similarity between the prior art and the claimed method.

Where the claimed and prior art processes are identical or substantially identical a *prima facie* case of either anticipation or obviousness has been established and the burden of proof rests upon the Applicant to demonstrate that the prior art does not necessarily or inherently possess the characteristics of Applicant's claimed product. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977)). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the method of claims 2, 4, 7, 9, 13 and 19 fail to distinguish over that of the prior art and they are rejected as being anticipated under 35 U.S.C. 102(e).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al. as applied to claims 2, 4, 7, 9-10, 13 and 19 above, and further in view of Hirabayashi et al. (2002).

On pages 12-13 of Remarks (Id.), Applicant traverses the rejection on the basis that the Lin et al. prior art fails to teach identifying a test compound as a modulator of cellular glycosylation as recited in b). Applicant further traverses that Lin is silent with respect to the correlation between GTRAP3-18 and cellular glycosylation and therefore does not provide an enabling disclosure for the subject matter as claimed. While these arguments have been fully considered they are not found persuasive for the reasons as stated in section 6 of the instant Office Action.

Briefly, the Lin prior art teaches a method comprising contacting cells expressing GTRAP3-18 with test compounds and assaying the effects of the test compound on both GTRAP3-18 protein expression and GTRAP3-18 activity via its association with the co-expressed excitatory amino acid (a.k.a. glutamate) transporter, EAAC1, thereby inherently identifying a compound which modulates cellular glycosylation.

The Lin reference does not teach a method whereby the ability of the test compound to modulate GTRAP3-18 expression or activity is determined by detecting the level of glycosylation of a GTRAP3-18 target molecule.

The Hirabayashi et al. reference discloses a variety of techniques (i.e. mass spectrometry, 2-D/3-D mapping and ConA-agarose column purification) for quantification of glycosylated proteins and discloses these methods are essential for a understanding the effects of glycosylation, which is "involved in numerous biological phenomena, such as cell development, differentiation, implantation, morphogenesis, tumor metastasis, microbe infection, etc." and that, in cell culture models, mutations in the pathways of glycosylation demonstrate no altered phenotypes, whereas genetic

defects in these pathways lead to termination of development at the embryonic stage (pg. 68, column 2, lines 5-13).

It would have been well within the technical skill of one of ordinary skill in the art to combine the methods of detecting modulation of glycosylation as taught by Hirabayashi et al. with the methods of testing the effects of test compounds on GTRAP3-18 expression and activity as described in Lin et al. A skilled artisan would be motivated to combine because the Hirabayashi reference explicitly teaches that quantification of glycosylation allows for a fuller investigation cellular function as glycosylation is involved in numerous biological phenomena. Therefore, the invention as a whole is *prima facie obvious*, if not actually anticipated by the reference.

Conclusion

10. No Claim is allowed.
11. This is a RCE of applicant's earlier Application No. 10/542,435. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STACEY MACFARLANE whose telephone number is (571)270-3057. The examiner can normally be reached on M-W and ALT F 5:30 to 3:30, TELEWORK-Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Stucker can be reached on (571) 272-0911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Stacey MacFarlane

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Examiner
Art Unit 1649

/John D. Ulm/
Primary Examiner, Art Unit 1649